

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference H10789WO-DJL/ACL	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/05695	International filing date (<i>day/month/year</i>) 30.12.2003	Priority date (<i>day/month/year</i>) 25.01.2003
International Patent Classification (IPC) or both national classification and IPC G04G9/02, G04G9/04		
Applicant WIGLEY, David		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 10.08.2004	Date of completion of this report 25.04.2005
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016 </div> </div>	Authorized Officer Pirozzi, G Telephone No. +31 70 340-4878



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/05695

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-8 as originally filed

Claims, Numbers

1-10 received on 08.04.2005 with letter of 07.04.2005

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	8-10
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	8-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document:

D2: CH 683 664 A (MIROSLAV BLAGOJEVIC) 29 April 1994 (1994-04-29)

1 Novelty of independent claims 1 and 7

- 1.1 The document D2 is regarded as the closest prior art to the subject-matter of independent claims 1 and 7.

This document discloses a time indicating device provided with an indicator portion of variable area wherein the area of the indicator portion is changed according to the minutes to be displayed and the color of the indicator portion is changed according to the hours and the minutes (with a suitable encoding) to be displayed.

- 1.2 The subject matter of independent claims 1 and 7 differs from the subject-matter disclosed by D2 in that:

a control unit is operative to alter the appearance of the indicator portion, without altering its area, **exclusively** in accordance with the hour of time to be displayed, in particular the control unit being operative to alter the color of the indicator portion, **exclusively** in accordance with the hour of time to be displayed.

- 1.3 The subject matter of independent claims 1 and 7 is therefore new (Article 33(2) PCT).

2 Inventive step of independent claims 1 and 7

- 2.1 The problem solved by the present application may be regarded as:

how to render the time information displayed by D2 more intuitively and quickly readable to a user.

- 2.2 The above problem is solved by the present application by clearly separating the roles

of 1) the colour of the indicator portion and 2) the (variable) area of the indicator portion itself.

Indeed, in the display system of the present application, the area of the indicator portion is changed only according to the passage of the minutes (while the colour remains unchanged) and the colour of the indicator portion is changed exclusively according to the passage of the hours (while there is no link between the area of the indicator portion and the hours).

- 2.3 This solution would not be trivially applied by the skilled man once he would be confronted with the teaching of D2. Indeed, the system shown in this document requires the possibility to display two different colours: a first one for indicating the change of the hours and a second one for counting the number of 5-minutes groups elapsed since last "o' clock". The variable area of the display is used only to give a fine information (one minute accuracy) related to the minutes.

Therefore, the skilled man would have to:

- eliminate the second color from D2, and
- re-arrange the variable area display in order to cope with the passage of the minutes within one entire hour.

- 2.4 Because the subject-matter of independent claims 1 and 7 shows both the above improvements over D2, it is considered to fulfil the requirements of Article 33(1) and 33(3) PCT in terms of inventive step.

3 Dependent claims 2-6

Claims 2-6 are dependent on claim 1 and, as such, also fulfill the requirements of Articles 33(1), (2) and (3) PCT in terms of novelty and inventive step.

4 Independent claims 8-10

Independent claims 8-10 have been drafted by making reference to the description and the figures; this circumstance is regulated by Rule 6.2a PCT. The reference made to the figures and to the description which has been made in the above mentioned claims is

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considered not to be allowable under the requirements of Rule 6.2a PCT.

Furthermore, after disregarding the above references, claims 8-10 are left with a subject-matter which does not comply with the requirements of Article 33(2) PCT in terms of novelty and with the requirements of Article 6 PCT in terms of clarity.

CLAIMS

1. A time display apparatus including a display unit and a control unit, the display unit being provided with an indicator portion of variable area and the control unit being operative to alter the area of the indicator portion in accordance with the minutes of the time to be displayed, the or an additional control unit being operative to alter the visual appearance of the indicator portion, without altering the area of the indicator portion, exclusively in accordance with the hour of the time to be displayed, characterised in that the display unit includes a colour display, and the control unit is operative to alter the colour of the indicator portion exclusively in accordance with the hour of the time to be displayed.
2. A time display apparatus according to any preceding claim wherein the indicator portion has the shape of a generally rectangular bar, the control unit being operative to alter the length of the bar in accordance with the first unit of time to be displayed.
3. A time display apparatus according to claim 1 wherein the indicator portion has the shape of a segment of an annulus, the control unit being operative to alter the circumferential extent of the indicator portion in accordance with the first unit of time to be displayed.
4. A time display apparatus according to claim 1 wherein the indicator portion has the shape of a segment of a circle, the control unit being operative to alter the angle subtended by the segment in accordance with the first unit of time to be displayed.
5. A time display apparatus according to any preceding claims wherein the control unit is operative to increase the area of the indicator portion as the value of the first unit of time to be displayed increases.

6. A time display apparatus according to any preceding claim wherein the display unit includes a liquid crystal display, part of which forms the indicator portion.
7. A timepiece including a display unit and a control unit, the display unit being provided with an indicator portion of variable area and the control unit being operative to alter the area of the indicator portion in accordance with the minutes of the time to be displayed and, the or an additional control unit being operative to alter the visual appearance of the indicator portion, without altering the area of the indicator portion, exclusively in accordance the hour of the time to be displayed, characterised in that the display unit includes a colour display, and the control unit is operative to alter the colour of the indicator portion exclusively in accordance with the hour of the time to be displayed.
8. A time display apparatus substantially as hereinbefore described with reference to and/or as shown in the accompanying drawings.
9. A timepiece substantially as hereinbefore described with reference to and/or as shown in the accompanying drawings.
10. Any novel feature or novel combination of features as hereinbefore described with reference to and/or as shown in the accompanying drawings.